

Patent claims:

1. A method of producing a pressure-sensitive adhesive article having at least one layer of a thermally conductive pressure-sensitive adhesive, characterized in that a layer of the thermally conductive pressure-sensitive adhesive that is anisotropic at least in respect of one property is produced in a coating process by stretching, drawing or compressing, said layer possessing in at least one direction along the plane of the layer a shrinkback of at least 3% in respect of the longitudinal extent of the layer, measured on the free pressure-sensitive adhesive film.

2. The method of claim 1, characterized in that the coating process is a hotmelt roll coating process, a melt diecoating process or an extrusion coating process.

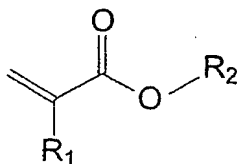
3. The method of claim 1, characterized in that the coating process is a conventional coating process with subsequent stretching or drawing on a stretchable carrier.

4. The method of any one of claims 1 to 3, characterized in that the thermally conductive pressure-sensitive adhesive is coated onto one or both sides of a sheetlike or tapelike carrier.

5. The method of claim 4, characterized in that the carrier is a transfer tape, a release liner or a thermally conducting carrier material.

6. The method of any one of claims 1 to 5, characterized in that the pressure-sensitive adhesive used is based on polyacrylate and/or polymethacrylate.

7. The method of claim 6, characterized in that the pressure-sensitive adhesive is based to an extent of at least 50% by weight on at least one acrylic monomer from the group of the compounds of the following general formula:



where $R_1 = H$ or CH_3 and the radical $R_2 = H$ or CH_3 or is chosen from the group of the branched or unbranched, saturated alkyl groups having 2 – 30 carbon atoms and the average molecular weight M_w of the pressure-sensitive adhesive is at least 200 000 g/mol.

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7. The method of any one of claims 1 to 6, characterized in that crosslinkers, especially difunctional or polyfunctional acrylates and/or methacrylates, difunctional or polyfunctional isocyanates or difunctional or polyfunctional epoxides, have been added to the pressure-sensitive adhesive.

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8. The method of claim 8, characterized in that the pressure-sensitive adhesive is crosslinked, preferably photochemically, immediately after or during hotmelt coating.

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9. The method of any one of claims 1 to 9, characterized in that thermally conductive materials, especially metallic or ceramic materials, graphite, aluminum, aluminum oxide, aluminum nitride, titanium dioxide, titanium boride, silicon nitride, carbonitride or boron nitride, preferably in powder form.

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10. The method of claim 10, characterized in that the thermally conductive materials are admixed in a fraction of from 5% to 200% by weight, preferably between 6% and 50% by weight, based on the weight of the pressure-sensitive adhesive.

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11. The method of any one of claims 1 to 11, characterized in that the thermal conductivity of the pressure-sensitive adhesive is at least 0.05 W/mK.

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12. The method of any one of claims 1 to 12, characterized in that the thermal conductivity is anisotropic and is lower along a plane lying in the pressure-sensitive adhesive layer than transverse to the plane of the layer, it being at least 0.06 W/mK in a direction transverse to the plane of the layer.

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13. The method of any one of claims 1 to 13, characterized in that the pressure-sensitive adhesive comprises further substances or additives, such as aging inhibitors, light stabilizers, ozone protectants, fatty acids, plasticizers, nucleators, expandants, accelerators and/or fillers.

14. A pressure-sensitive adhesive article, in particular for bonding two electrical parts, obtainable by a method of any one of claims 1 to 14.
15. The pressure-sensitive adhesive article of claim 15 in the form of a diecut.